

What is claimed is:

1. An idle control system applicable to a fuel cell vehicle, the fuel cell vehicle comprising:

a fuel cell for generating electric power by supplying reaction gases using an air supply compressor and a hydrogen supply device;

a driving motor to which generated electric current from the fuel cell is supplied;

vehicle auxiliary equipment to which generated electric current from the fuel cell is supplied; and

a power storage device which is charged by generated electric current from the fuel cell; and

the idle control system for controlling the fuel cell vehicle according to driving modes, wherein,

when the fuel cell vehicle is in a normal driving mode, and not in an idle mode, the control system drives the fuel cell to generate electric current corresponding to a required power for driving the driving motor and the auxiliary equipment;

when the fuel cell vehicle is in a predetermined idle mode, the control system stops the fuel cell to stop power generation of the fuel cell by stopping the air compressor; and

while the fuel cell vehicle is in a predetermined idle mode, and when it is determined that the state of charge of the power storage device falls below a predetermined state of charge of the power storage device, the control system drives the fuel cell to generate a current corresponding to the optimum power generation efficiency of the fuel cell.

2. An idle control system applicable to a fuel cell according to claim 1, wherein said power generation efficiency of the fuel cell system is defined by:

{(total electric power generated by the fuel cell)–(electric power consumed by the compressor for supplying the reaction gas to fuel the cell)} divided by (total electric power generated by the fuel cell).

3. An idle control system applicable to a fuel cell vehicle according to claim 1, wherein said predetermined idle state is determined based on an operating state of an accelerator pedal by the driver.